

CLAIMS

I claim:

1. A thermal foot cover for receiving a wearer's shoe-encased or boot-encased foot or a wearer's foot comprising:

(a) an upper cover portion comprising an ankle opening, and

(b) a bottom panel,

the upper cover portion is attached to the bottom panel to define a cavity for wearer's shoe-encased or boot-encased foot or wearer's foot and wherein at least a portion of the upper cover portion is made of a material comprising an outer covering and a radiant barrier, wherein the radiant barrier is attached to the inside portion of the outer covering.

2. The thermal foot cover of claim 1, wherein at least a portion of the bottom panel is made of a material comprising an outer covering and a radiant barrier, wherein the radiant barrier is attached to the inside portion of the outer covering.

3. The thermal foot cover of claim 1 wherein the bottom panel is a sole.

4. The thermal foot cover of claim 1 further comprising a cavity enlargement means to facilitate insertion of the wearer's shoe-encased or boot-encased foot or the wearer's foot into the

cavity.

5. A thermal foot cover of claim 1 further comprising a bottom panel exterior coating comprising polymeric material, the bottom panel exterior coating being attached to the outer covering of the bottom panel to provide a non-skid surface on the bottom of the thermal foot cover.

6. The thermal foot cover of claim 2 wherein the radiant barrier is a radiant bubble barrier comprising at least one polymeric sheet comprising a plurality of air bubbles sandwiched between two thin metallic sheets.

7. The thermal foot cover of claim 4 wherein the upper cover portion comprises a first top panel and a second top panel and the cavity enlargement means comprises a fastener which attaches the first top panel to the second top panel to facilitate insertion of the wearer's shoe-encased or boot-encased foot or the wearer's foot into the cavity.

8. The thermal foot cover of claim 4 wherein the cavity enlargement means comprises an expandable ankle portion, the expandable ankle portion is adjacent to the ankle opening and made of an elastic material.

9. A thermal foot cover for receiving a wearer's shoe-

encased or boot-encased foot or a wearer's foot comprising:

(c) an upper cover portion comprising an ankle opening, and

(d) a bottom panel,

the upper cover portion attached to the bottom panel to define a cavity for wearer's shoe-encased or boot-encased foot or wearer's foot and wherein at least a portion of the upper cover portion is made of a material comprising an outer covering, a radiant barrier and a inner covering, wherein the radiant barrier is sandwiched between the outer covering and the inner covering.

10. The thermal foot cover of claim 9, wherein at least a portion of the bottom panel is made of a material comprising an outer covering, a radiant barrier and a inner covering, wherein the radiant barrier is sandwiched between the outer covering and the inner covering.

11. The thermal foot cover of claim 9 wherein the bottom panel is a sole.

12. The thermal foot cover of claim 9 further comprising a cavity enlargement means to facilitate insertion of the wearer's shoe-encased or boot-encased foot or the wearer's foot into the cavity.

13. A thermal foot cover of claim 9 further comprising a

bottom panel exterior coating comprising polymeric material, the bottom panel exterior coating being attached to the outer covering of the bottom panel to provide a non-skid surface on the bottom of the thermal foot cover.

14. The thermal foot cover of claim 10 wherein the radiant barrier is a radiant bubble barrier comprising at least one polymeric sheet comprising a plurality of air bubbles sandwiched between two thin metallic sheets.

15. The thermal foot cover of claim 12 wherein the upper cover portion comprises a first top panel and a second top panel and the cavity enlargement means comprises a fastener which attaches the first top panel to the second top panel to facilitate insertion of the wearer's shoe-encased or boot-encased foot or the wearer's foot into the cavity.

16. The thermal foot cover of claim 12 wherein the cavity enlargement means comprises an expandable ankle portion, the expandable ankle portion is adjacent to the ankle opening and made of an elastic material.

17. A thermal foot cover for receiving a wearer's shoe-encased or boot-encased foot or a wearer's foot comprising:

(a) a first side panel that generally conforms to the shape of a shoe or a boot with a first side panel top

straight edge, a first side panel top curved edge, a first side panel bottom edge, a first side panel front edge and a first side panel rear edge, the first side panel comprising an outer covering, a radiant barrier and a inner covering, wherein the radiant barrier is sandwiched between the outer covering and the inner covering;

(b) a second side panel that generally conforms to the shape of a shoe or a boot with a second side panel top straight edge, a second side panel top curved edge, a second side panel bottom edge, a second side panel front edge and a second side panel rear edge, the second side panel comprising an outer covering, a radiant barrier and a inner covering, wherein the radiant barrier is sandwiched between the outer covering and the inner covering, the second side panel front edge being attached to the first side panel front edge to form the toe of the thermal foot cover and the second side panel rear edge being attached to the first side panel rear edge to form the heel of the thermal foot cover;

(c) a first top panel with a first top panel top edge, a first top panel bottom edge, a first top panel front edge and a first top panel rear edge, the first top panel comprising an outer covering, a radiant barrier and an inner covering, wherein the radiant barrier is sandwiched between the outer covering and the inner covering, where the first top panel front edge is being attached to the first side panel top curved edge and the second side panel top curved

edge and where the first top panel bottom edge is being attached to the first side panel top curved edge;

(d) a second top panel with a second top panel top edge, a second top panel bottom edge, a second top panel front edge and a second top panel rear edge, the second top panel comprising an outer covering, a radiant barrier and an inner covering, wherein the radiant barrier is sandwiched between the outer covering and the inner covering, where the second top panel front edge is being attached to the first side panel top curved edge and the second side panel top curved edge and where the second top panel bottom edge is being attached to the second side panel top curved edge such that the first top panel overlaps the second top panel such that the combination of the first side panel, the second side panel, the first top panel and the second top panel forms an upper cover portion of the thermal foot cover;

(e) a bottom panel, the bottom panel comprising an outer covering, a radiant barrier, and an inner covering, where the radiant barrier is sandwiched between the outer covering and the inner covering, the bottom panel being attached to the first top panel bottom edge and the second top panel bottom edge such that the combination of the bottom panel, the lower part of the first side panel and the lower part of the second side panel create the bottom of the thermal foot cover and such that the combination of the first side panel, the second side panel, the first top

panel, the second top panel and the bottom panel define a cavity for receiving wearer's shoe-encased or boot-encased foot or wearer's foot through an ankle opening in the thermal foot cover; and

(f) a cavity enlargement means to facilitate insertion of the wearer's shoe-encased or boot-encased foot or the wearer's foot into the cavity;

whereby the radiant barriers in the first side panel, the second side panel, the first top panel, the second top panel and the bottom panel surround the wearer's shoe-encased or boot encased foot or the wearer's foot, when the wearer's shoe-encased or boot-encased foot or the wearer's foot is inserted inside the thermal foot cover, so that the radiant barrier can reflect the heat from the wearer's foot back inside the thermal foot cover and keep the wearer's foot warm.

18. The thermal foot cover of claim 17 wherein the radiant barrier is a radiant bubble barrier comprising at least one polymeric sheet comprising a plurality of air bubbles sandwiched between two thin metallic sheets.

19. A thermal foot cover of claim 17 wherein the radiant barrier in the bottom panel comprises an a radiant bubble barrier comprising at least one polymeric sheet comprising a plurality of air bubbles sandwiched between two thin metallic sheets.

20. A thermal foot cover of claim 19 further comprising a bottom panel exterior coating comprising a polymeric material, the bottom panel exterior coating being attached to the outer covering of the bottom panel to provide a non-skid surface on the bottom of the thermal foot cover.

21. A thermal foot cover of claim 19 further comprising a sole, the sole being attached to the bottom part of the outer covering of the first side panel, the bottom part of the outer covering of the second side panel and the outer covering of the bottom panel whereby the sole reduces the wear on the first side panel, the second side panel and the bottom panel when the wearer walks in the thermal foot cover.

22. A thermal foot cover of claim 19 wherein the cavity enlargement means comprises an expandable ankle portion, the expandable ankle portion adjacent to the ankle opening and made of an elastic material.

23. A thermal foot cover of claim 19 further comprising a means for fastening the cavity enlargement means to releasably fasten the cavity enlargement means to the upper cover portion to facilitate the insertion of wearer's shoe-encased or boot-encased foot or the wearer's foot into the thermal foot cover, when the cavity enlargement means is unfastened, and to cooperate with the first top panel, the second top panel and the cavity enlargement

means to provide a tight, secure fit around the wearer's shoe-encased or boot-encased foot or the wearer's foot, when the cavity enlargement means is fastened.

24. A thermal foot cover of claim 23 wherein the cavity enlargement means comprises a strap, the strap comprising an outer covering and an inner covering having a first end and a second end, the first end of the strap being attached to the first side panel top curved edge and to the first top panel bottom edge, at the seam where the first side panel top curved edge and the first top panel bottom edge are attached together, and the strap being of a predetermined length such that the strap laps over the first top panel, the second top panel and part of the second side panel and wherein the means for fastening the cavity enlargement means comprises a first strap fastener and a second strap fastener, the first strap fastener being attached to the inner covering of the strap, near the second end of the strap, and the second strap fastener being attached to the outer covering of the second side panel such that the first strap fastener cooperates with the second strap fastener to releasably fasten the second end of the strap to the second side panel.

25. A thermal foot cover of claim 23 further including a means for fastening the top panels to releasably fasten the first top panel to the second top panel such that the means for fastening the top panels cooperate with the first top panel, the

second top panel, the cavity enlargement means and the means for fastening the cavity enlargement means to enlarge the cavity to facilitate the insertion of wearer's shoe-encased or boot-encased foot or the wearer's foot into the thermal foot cover, when the means for fastening the top panels is unfastened, and to cooperate with the first top panel, the second top panel, the cavity enlargement means and the means for fastening the cavity enlargement means to provide a tight, secure fit around the wearer's shoe-encased or boot-encased foot or the wearer's foot, when the means for fastening the top panels is fastened.

26. A thermal foot cover of claim 25 wherein the means for fastening the top panels comprises a first top panel fastener and a second top panel fastener, the first top panel fastener being attached to the inner covering of the first top panel and the second panel fastener being attached to the outer covering of the second top panel such that the first top panel fastener and the second top panel fastener cooperates to releasably fasten the first top panel to the second top panel.

27. A method of making a thermal foot cover for a wearer's foot comprising the steps of:

(a) providing a pair of side panels with a top straight edge, a top curved edge, a bottom edge, a front edge and a rear edge, the pair of side panels comprises an outer covering, a radiant barrier and a inner covering where the

radiant barrier is sandwiched between the outer covering and the inner covering;

(b) a pair of top panels with a top edge, a bottom edge, a front edge and a rear edge, the pair of top panels comprises an outer covering, a radiant barrier and a inner covering where the radiant barrier is sandwiched between the outer covering and the inner covering;

(c) providing a bottom panel, the bottom panel comprises an outer covering, a radiant barrier and an inner covering where the radiant barrier is sandwiched between the outer covering and the inner covering;

(d) providing a cavity enlargement means;

(e) providing a means for fastening the cavity enlargement means;

(f) attaching the front edges of the side panels to form the toe of the thermal foot cover;

(g) attaching the rear edges of the side panels to form the heel of the thermal foot cover;

(h) attaching the bottom edges of the side panels to the bottom panel to form the bottom of the thermal foot cover;

(i) attaching the bottom edges and the front edges of the pair of top panels to the top curved edges of the pair of side panels to form the top of the thermal foot cover;

(j) attaching the cavity enlargement means to the pair of side panels and to the pair of top panels; and

(k) attaching the means for fastening the cavity enlargement means to the cavity enlargement means and to one of the pair of side panels;

so that the pair of side panels, the pair of top panels and the bottom panel define a cavity for receiving the wearer's shoe-encased or boot-encased foot or the wearer's foot into the thermal foot cover, and so that the cavity enlargement means and the means for fastening the cavity enlargement means cooperates with the pair of side panels and the pair of top panels to enlarge the cavity to receive the wearer's shoe-encased or boot-encased foot or the wearer's foot inside the thermal foot cover, when the means for fastening the cavity enlargement means is unfastened, and cooperates with the pair of side panels and the pair of top panels to provide a tight, secure fit around the wearer's shoe-encased or boot-encased foot or the wearer's foot when the means for fastening the cavity enlargement means is fastened.

28. The method of claim 27 further comprising the steps of:

(a) providing a sole; and

(b) attaching the sole to the outer covering of the bottom panel and to the outer covering of the pair of side panels.

29. The method of claim 28 further comprising the steps of:

(a) providing a means for fastening the top panels;
and

(b) attaching the means for fastening the top panels to releasably fasten one of the pair of top panels to the other of the pair of top panels.

30. The thermal foot cover of claim 27 wherein the radiant barrier is a radiant bubble barrier comprising at least one polymeric sheet comprising a plurality of air bubbles sandwiched between two thin metallic sheets.

31. A thermal foot cover of claim 27 wherein the radiant barrier in the bottom panel comprises an a radiant bubble barrier comprising at least one polymeric sheet comprising a plurality of air bubbles sandwiched between two thin metallic sheets.